

FIGS. 16, 17 and 18 show perspective views of various embodiments of the shaft placement and angle with respect to the putter head. FIG 16 shows a putter designed for the right handed golfer with the shaft **13** in the center of the putter head **1**. FIG. 17 shows an embodiment with the shaft positioned to suit a left handed golfer. FIG. 18 shows the shaft off center.

FIG 19 shows a side view of the putter **24** in balance in the face balance position with the putter in balance at its center of gravity **25**. FIG 20 shows a side view of the putter **24** in balance in a static balance position with the putter in balance at its center of gravity **25**.

FIGS. 21, 22 and 23 show varying embodiments of the invention where the non-radially curved strike face **7** is incorporated into the common heel and toe weighted putter, the blade putter and the mallet putter head designs.

## CLAIMS

What is claimed is:

A golf putter comprising:

- 1 1. A shaft with a top end and a bottom end, said top end enclosed by a grip  
2 and said bottom end fixedly attached to a head at an angle ten degrees or greater  
3 from a direction perpendicular to said head and a longitudinal axis extending  
4 from said top end to said bottom end;
- 1 2. A head having mass, a center of gravity, a top face having an alignment  
2 means, a bottom face having a narrow sole and rearwardly and upwardly  
3 extending doze portion, a front striking face having a non radial curvature and a  
4 sweet spot, a rear section having a cut out for concentrating said mass at a point of  
5 attachment of a shaft, a heel section and a distal toe section being made of a  
6 metallic or non-metallic material.
- 1 3. The head of Claim 2 wherein said center of gravity is midway between  
2 said heel and distal toe sections at a point along a longitudinal axis of a shaft.

1 4. The head of Claim 2 wherein said top face has an alignment means  
2 extending in a radial arc from said front face wherein a fulcrum of said arc is  
3 centered at said center of gravity of said head and defines said sweet spot.

1 5. The head of Claim 2 wherein said bottom face has a narrow sole.

1 6. The head of Claim 2 wherein said bottom face has a rearwardly and  
2 upwardly extending doze.

1 7. The doze of Claim 6 wherein said doze extends upwardly and rearwardly  
2 at an angle of greater than 10 degrees from a horizontal plane.

1 8. The head of Claim 2 wherein said front striking face has a surface forming  
2 a non- radial curvature vertically extending across said front striking face and a  
3 non-radial curvature horizontally extending across said front striking face  
4 whereby when a golf ball having a surface is struck by said front striking face  
5 surface, a one degree loft is imparted to said golf ball over a larger impact zone  
6 regardless of where on said front striking surface said front striking surface  
7 intersects said golf ball surface at a moment of impact.

1 9. The front striking face surface of Claim 8 wherein said vertically and  
2 horizontally extending non-radial curvatures are defined by an arc derived from a  
3 smoothing of a series of individual non-radial surfaces across said front striking  
4 face.

1 10. The individual non-radial surfaces of Claim 9 whereby each non-radial  
2 surface is defined by an non-radial curvature individually formulated to provide a  
3 surface which when in contact with said golf ball surface imparts a one degree loft  
4 to said golf ball regardless of where on said front striking face surface said front  
striking face surface intersects said golf ball surface at a moment of impact.

1 11. The rear section of Claim 2 wherein said cut out removes mass from said  
2 head whereby said center of gravity is concentrated at an entry point of said shaft  
3 along said longitudinal axis of said shaft rearward of said front face, enabling a  
pendulum swing by a golfer.

1 12. The entry point of Claim 11 wherein said entry point is located at a point  
2 midway between said heel and said toe portions of said putter head.

1 13. The entry point of Claim 11 wherein said entry point is located a distance  
2 away from said point midway between said heel and said toe portions of said  
3 putter head.

A golf putter comprising:

1 14. A shaft with a top end and a bottom end, said bottom end fixedly attached  
2 to a head and a longitudinal axis extending from said top end to said bottom end;

1 15. A head having mass, a center of gravity, a top face having an alignment  
2 means, a bottom face having a narrow sole and rearwardly and upwardly  
3 extending doze portion, a front striking face having a non-radial curvature and a  
4 sweet spot, a rear section and a distal toe section.

1 16. The head of Claim 15 wherein said center of gravity may be at any point  
2 between said heel and distal toe sections along a longitudinal axis of said shaft.

1 17. The head of Claim 15 wherein said top face has an alignment means  
2 extending in a non-radial arc from said front face wherein a fulcrum of said non-  
3 radial arc is centered at said center of gravity of said head and defines said sweet  
4 spot.

1 18. The head of Claim 15 wherein said bottom face has a rearwardly and

2 upwardly extending doze.

1 19. The doze of Claim 18 wherein said doze extends upwardly and rearwardly  
3 at an angle of greater than 10 degrees from a horizontal plane.

1 20. The head of Claim 15 wherein said front striking face has a surface  
2 forming a non- radial curvature vertically extending across said front striking face  
3 and a one degree loft is imparted to said golf ball regardless of where on said  
4 golf ball surface said front striking surface intersects said golf ball surface  
5 at a moment of impact.

1 21. The front striking face surface of Claim 20 wherein said vertically and  
2 horizontally extending radial curvatures are defined by an arc derived from a  
3 smoothing of a series of individual non-radial surfaces across said front striking  
4 face.

1 22. The individual non-radial surfaces of Claim 21 whereby each non-radial  
2 surface is defined by an non-radial contour individually formulated to provide a  
3 surface which when in contact with said golf ball surface imparts a one degree loft  
4 to said golf ball regardless of where on said front striking face surface said front  
striking surface intersects said golf ball surface at a moment of impact.

1 23. The rear section of Claim 15 wherein said cut out removes mass from said  
2 head whereby said center of gravity is concentrated at an entry point of said shaft  
3 along said longitudinal axis of said shaft rearward of said front face, enabling a  
4 pendulum swing by a golfer.

1 24. The entry point of Claim 23 wherein said entry point is located at a point  
2 between said heel and said toe portions of said putter head.

1 25. The putter head of Claim 15 being composed of metallic or non-metallic

2 materials.

A golf putter head comprising:

1 26. A head having a top face with an alignment means, a bottom face, a front  
2 striking face having a non-radial curvature, a sweet spot and a rear section.

1 27. The head of Claim 26 wherein said top face has an alignment means  
2 extending in a non-radial arc from said front face wherein a fulcrum of said non-  
3 radial arc defines said sweet spot.

1 28. The head of Claim 26 wherein said front striking face has a surface  
2 forming a non-radial curvature vertically extending across said front striking face  
3 and a one degree loft is imparted to said golf ball regardless of where on said  
4 front striking face surface said front striking surface intersects said golf ball  
surface at a moment of impact.

1 29. The front striking face surface of Claim 28 wherein said vertically and  
2 horizontally extending non-radial curvatures are defined by an arc derived from a  
3 smoothing of a series of individual non-radial contours across said front striking  
4 face.

1 30. The individual non-radial surfaces of Claim 29 whereby each non-radial  
2 surface is defined by a non-radial curve individually formulated to provide a  
3 surface which when in contact with said golf ball surface imparts a one degree loft  
4 to said golf ball regardless of where on said front striking face surface said front  
5 striking face surface intersects said golf ball surface at a moment of impact.